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U. S. WAR DEPT. TECHNICAL MANUAL 8-613
CASE, BONEOPERATING, 110VOLT, AC-DC ITEM
3073008

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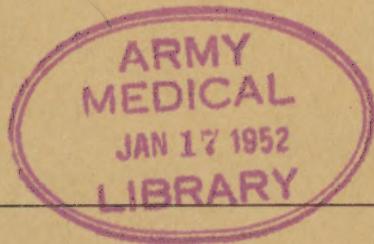
TM 8-613

WAR DEPARTMENT TECHNICAL MANUAL

CASE, BONE OPERATING,

110 VOLT, AC-DC

(ITEM 3073008)



WAR DEPARTMENT • 8 September 1944

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WASHINGTON 25, D. C., 8 September 1944.

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TM 8-613, Case, Bone Operating, 110 Volt, AC-DC (Item 3073008),
is published for the information and guidance of all concerned.

[A. G. 300.7 (28 Jun 44).]

BY ORDER OF THE SECRETARY OF WAR:

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For explanation of symbols, see FM 21-6.

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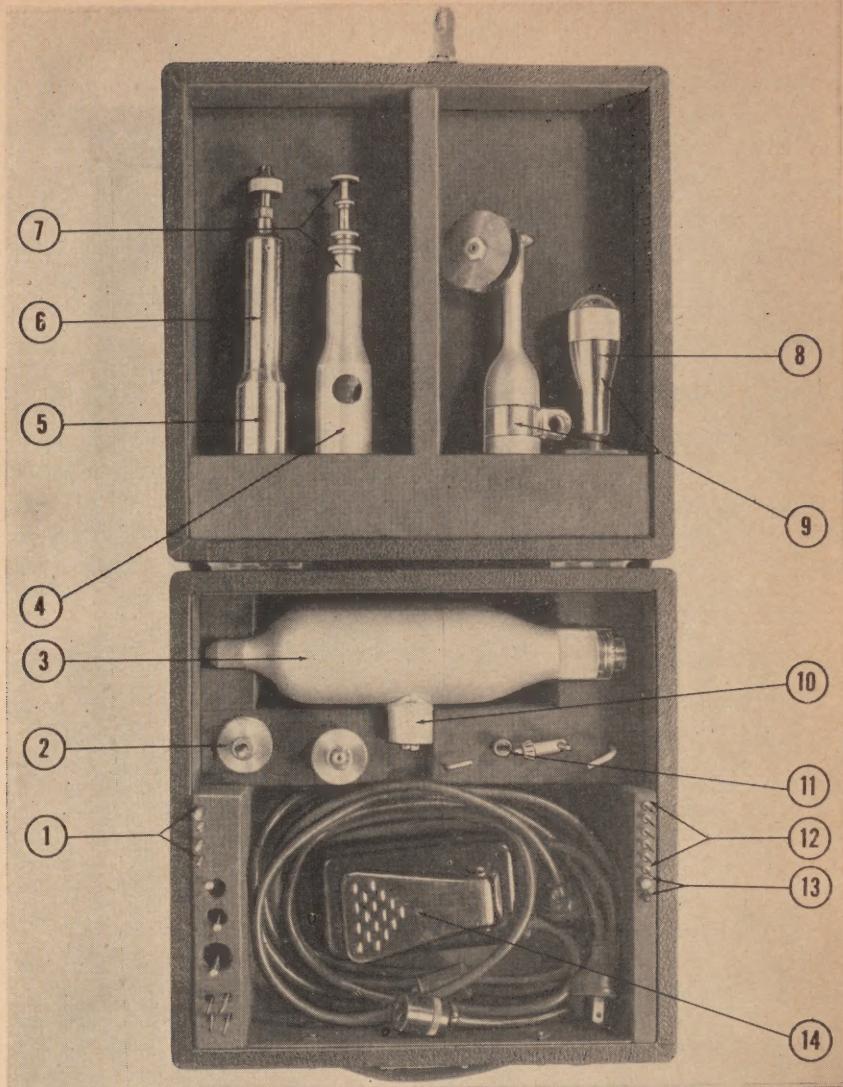


Figure 1. Case, Bone Operating, shown with all assemblies and accessories in their proper places.

1. SR00173—Drill, Twist, $\frac{1}{32}$ -Inch, Carbon Steel.
2. SR00174—Drill, Twist, $\frac{1}{16}$ -Inch, Carbon Steel.
3. SR00175—Drill, Twist, $\frac{1}{32}$ -Inch, Carbon Steel.
4. SR00176—Drill, Twist, $\frac{3}{16}$ -Inch, Carbon Steel.
5. SR00177—Saw, Circular, Carbon Steel, .012 Inch Thick, $1\frac{3}{8}$ Inch O.D. $\times \frac{3}{8}$ Inch I.D.
6. SR00178—Motor, Complete.
7. SR00179—Attachment, Telescopic, Complete.
8. SR00180—Attachment, Reciprocating, Complete.
9. SR00181—Body, Telescopic.
10. SR00182—Section, "A", Telescopic Attachment, Aluminum.
11. SR00183—Nut, "A" Thumb, Telescopic Attachment.
12. SR00184—Section, "B", Telescopic Attachment.
13. SR00185—Nut, "B" Thumb, Telescopic Attachment.
14. SR00186—Section, "C", Telescopic Attachment.
15. SR00187—Nut, "C" Thumb, Telescopic Attachment.
16. SR00188—Section, "D", Telescopic Attachment.
17. SR00189—Nut, "D" Thumb, Telescopic Attachment.
18. SR00190—Handle, Longitudinal Attachment.
19. SR00191—Attachment, Longitudinal, Complete.
20. SR00192—Plug, Male.
21. SR00193—Adapter, Driver.
22. SR00194—Burr, Slotting, Size 1.
23. SR00195—Burr, Slotting, Size 2.
24. SR00196—Burr, Curetting, No. 4.
25. SR00197—Burr, Curetting, No. 6.
26. SR00198—Switch, Foot.

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. SCOPE. a. These instructions are published for the information and guidance of the personnel to whom this equipment is assigned. They contain information on the operation and first and second echelon maintenance of the equipment as well as descriptions of the major units and their functions in relation to the other components of the equipment. They apply to the Case, bone operating, 110 volt, AC-DC, Medical Department item No. 3073008, only.

b. Appendix II lists parts of the bone operating case. Those parts on the list keyed with an asterisk are regularly stocked by medical supply depots as spare parts for this equipment. Those parts not keyed with an asterisk are available through special purchase only.

2. RECORDS. No standard maintenance forms are suggested for use with this equipment.

Section II. DESCRIPTION AND DATA

3. DESCRIPTION. a. General information. This equipment is a standard type portable bone operating equipment conveniently packed, together with its accessories, in a portable carrying case.

b. Manufacturer. Zimmer Manufacturing Company, Warsaw, Indiana.

4. DATA. a. Performance. The motor rotates at a speed of 13,000 r.p.m., at the small end, with a ratio of 6 to 1 at the large end.

b. Electrical power necessary. 110-volt, 60-cycle alternating current or 110-volt, 60-cycle direct current.

Section III. TOOLS

5. FIRST ECHELON TOOLS. The following tools are shipped with the bone operating case.

a. WRENCH, Setscrew, Bristo No. 8: SR00193 (figs. 5 and 7).

b. WRENCH, Setscrew, Bristo, $\frac{1}{4}$ Inch: SR00201.

c. WRENCH, Open end, $\frac{5}{8}$ Inch: Special. 3R00144 (fig. 7).

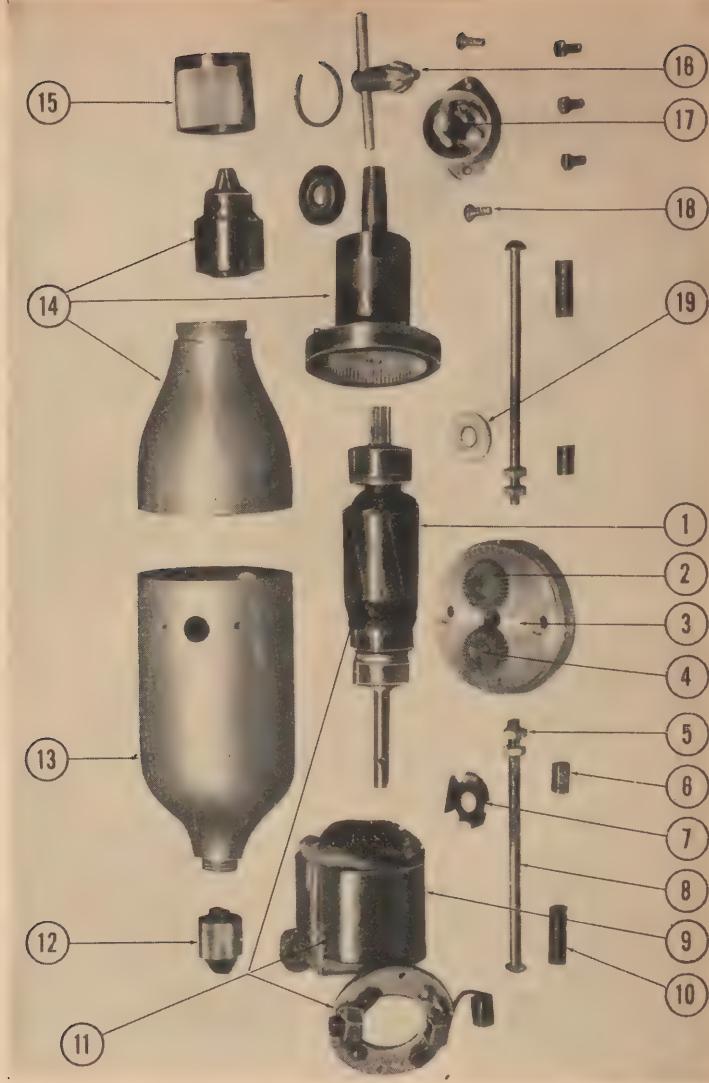


Figure 2. The motor assembly showing all subassemblies and their parts.

1. 3R00078—Armature, Complete.	11. 3R00146—Motor, Electric, Complete
2. 3R00058—Gear, Idler.	12. 3R00056—Cap, Case, Fast, End.
3. 3R00072—Holder, Bearing.	13. 3R00008—Casting, Fast End.
4. SR00202—Pin, 10 X 1/2-Inch, F.I.H.	14. 3R00038—Assembly, Slow End, Complete.
5. SR00185—Nut, 8 X 32, Hex, Brass.	15. 3R00158—Cap, Nose, Slow End.
6. 3R00076—Bushing, Motor, Small.	16. 3R00006—Key, Jacob's Chuck.
7. 3R00162—Spring, Adjustment.	17. 3R00142—Plug, Male.
8. SR00184—Screw, 8-32 X 4 Inch, R.H.M.	18. SR00190—Screw, 6 X 3/8-Inch, Self Tapping, O.H., S.S.
9. 3R00062—Field, Magnetic.	19. SR00188—Washer, 13/16 Inch O.D. X 3/8 Inch I.D. X 1/16 Inch Thick, Felt.
10. 3R00074—Bushing, Motor, Large.	

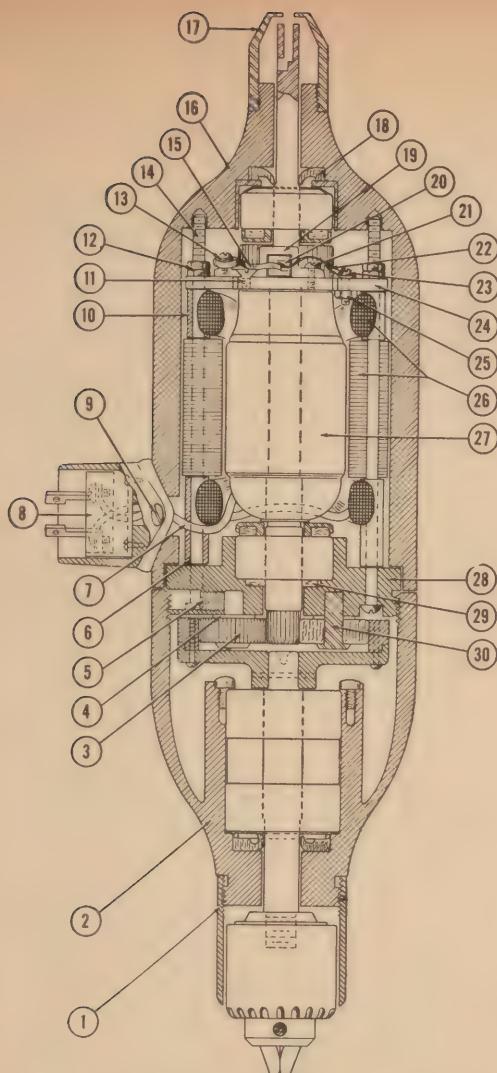


Figure 3. Cross section of the motor assembly showing all parts.

1. 3R00158—Cap, Nose, Slow End.	16. 3R00008—Casting, Fast End.
2. 3R00038—Assembly, Slow End, Complete.	17. 3R00056—Cap, Case, Fast End.
3. 3R00058—Gear, Idler.	18. 3R00162—Spring, Adjustment.
4. SR00200—Washer, $\frac{3}{16}$ Inch X $\frac{1}{2}$ Inch X .010 Inch, Brass.	19. 3R00068—Holder, Brush.
5. SR00186—Setscrew, 10-24 X $\frac{3}{16}$ Inch, Allen, Cup Pl. S.S.	20. 3R00066—Brush, Carbon.
6. 3R00074—Bushing, Motor, Large.	21. SR00178—Screw, 4- X $\frac{1}{4}$ -Inch, Sheet Metal, B.H.
7. SR00189—Tubing, Insulation, Spaghetti, 3mm.	22. SR00180—Terminal, .016 Ga., $\frac{5}{32}$ Inch Hole, $\frac{3}{16}$ Inch O.D., Copper.
8. 3R00142—Plug, Male.	23. SR00182—Screw, 6-32 X $\frac{1}{4}$ -Inch, R.H.M., Brass.
9. SR00190—Screw, 6 X $\frac{3}{8}$ -Inch, Self Tapping, O.H.M. S.S.	24. 3R00064—Ring, Holder, Brush.
10. 3R00076—Bushing, Motor, Small.	25. SR00183—Nut, 6 X 32, Square, Brass.
11. SR00179—Screw, 4 X $\frac{1}{4}$ -Inch, Sheet Metal, Fl.H.	26. 3R00062—Field, Magnetic.
12. SR00185—Nut, 8 X 32, Hex, Brass.	27. 3R00078—Armature, Complete.
13. SR00181—Screw, 2 X $\frac{3}{8}$ -Inch, Sheet Metal, R.H.	28. 3R00072—Holder, Bearing.
14. SR00184—Screw, 8-32 X 4-Inch, R.H.M.	29. SR00188—Washer, $\frac{13}{16}$ Inch O.D. X $\frac{3}{8}$ Inch I.D. X $\frac{1}{16}$ Inch Thick, Felt.
15. 3R00070—Brush.	30. SR00202—Pin, 10- X $\frac{1}{2}$ -Inch, Fl.H.

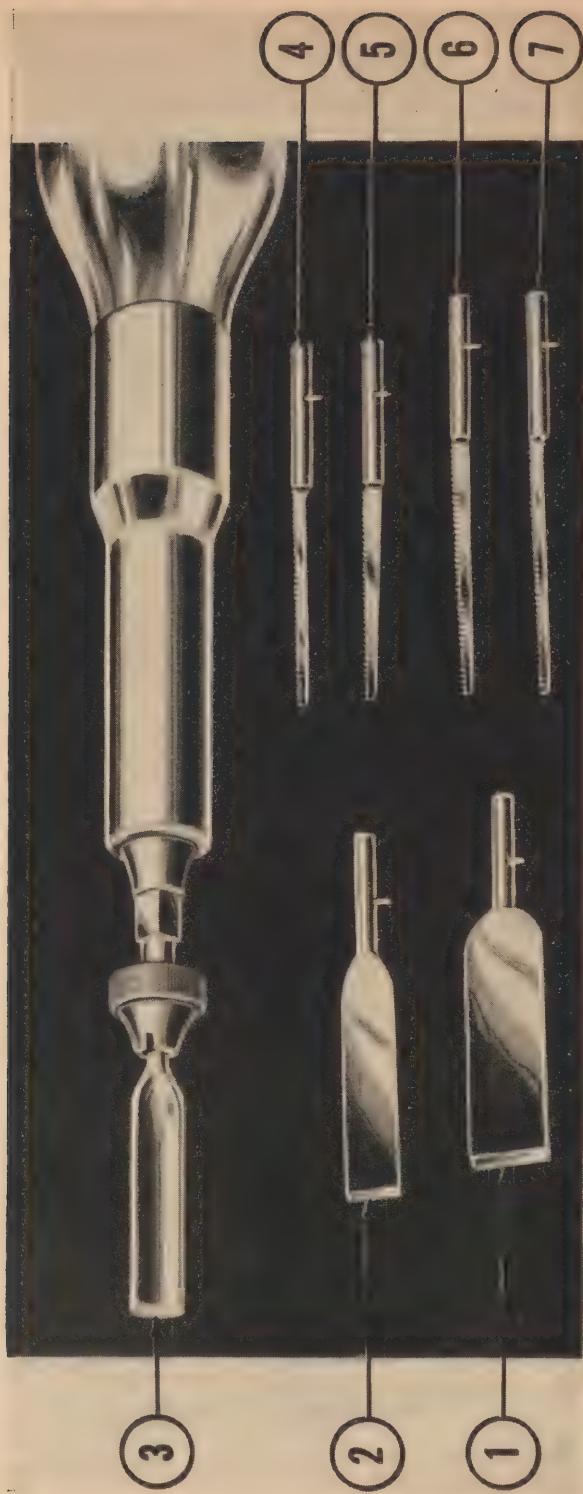


Figure 4. The reciprocating attachment assembly showing parts, chisels and saws.

1. 3R00054—Chisel, Bone, Flat, $\frac{3}{4}$ -Inch.	4. 3R00048—Saw, Straight, Narrow, Short.	6. 3R00042—Saw, Straight, Wide, Long.
2. 3R0052—Chisel, Bone, Flat, $\frac{1}{2}$ -Inch.	5. 3R00044—Saw, Straight, Wide, Short.	7. 3R00046—Saw, Straight, Narrow, Long.
3. 3R00050—Chisel, Bone, Curved, $\frac{1}{2}$ -Inch.		

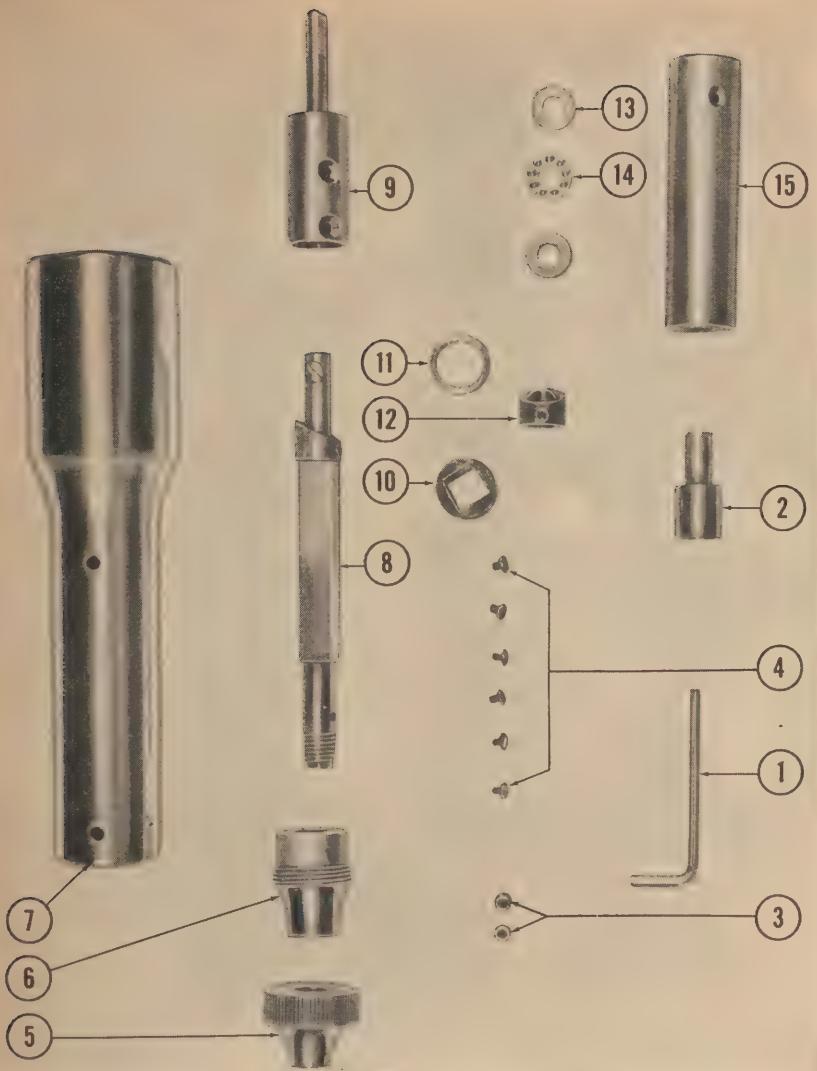


Figure 5. The reciprocating attachment assembly showing all parts.

1. SR00193—Wrench, Setscrew, Bristo, No. 8.	9. 3R00132—Sleeve, Rotating, Reciprocating Attachment.
2. 3R00004—Adapter, Driver.	10. 3R00134—Bushing, Square Holed, Reciprocating Attachment.
3. SR00197—Setscrew, 0-32 X $\frac{1}{8}$ Inch, Bristo, Cup Pl. S.S.	11. 3R00136—Bushing, Reciprocating Attachment.
4. SR00205—Screw, 2-56 X $\frac{1}{8}$ Inch, F.I.H.M.	12. 3R00138—Cam, Reciprocating Attachment.
5. 3R00130—Chuck, Reciprocating Attachment, Complete.	13. SR00187—Spacer, Bearing, $\frac{7}{16}$ Inch O.D. X $\frac{3}{16}$ Inch I.D. X $\frac{1}{16}$ Inch Thick.
6. 3R00128—Nose, Reciprocating Attachment.	14. SR00192—Bearing, Thrust, $\frac{7}{16}$ Inch O.D. X $\frac{3}{16}$ Inch I.D. X $\frac{1}{16}$ Inch Thick, Brass, Steel Ball.
7. 3R00124—Casing, Outer, Reciprocating Attachment.	15. 3R00140—Sleeve, Reciprocating Attachment, Bronze.
8. 3R00126—Shaft, Reciprocating Attachment.	



1. 3R0000—Handle, Longitudinal Attachment.
2. 3R0002—Ferrule, Handle, Longitudinal Attachment.
3. 3R0004—Adapter, Driver.
4. SR0074—Saw, Circular, Carbon Steel, .015 Inch Thick, 2 Inch O.D. X $\frac{5}{16}$ Inch I.D.
5. 3R00164—Nut, Spindle, Large Saw.

Figure 6. The longitudinal attachment assembly.

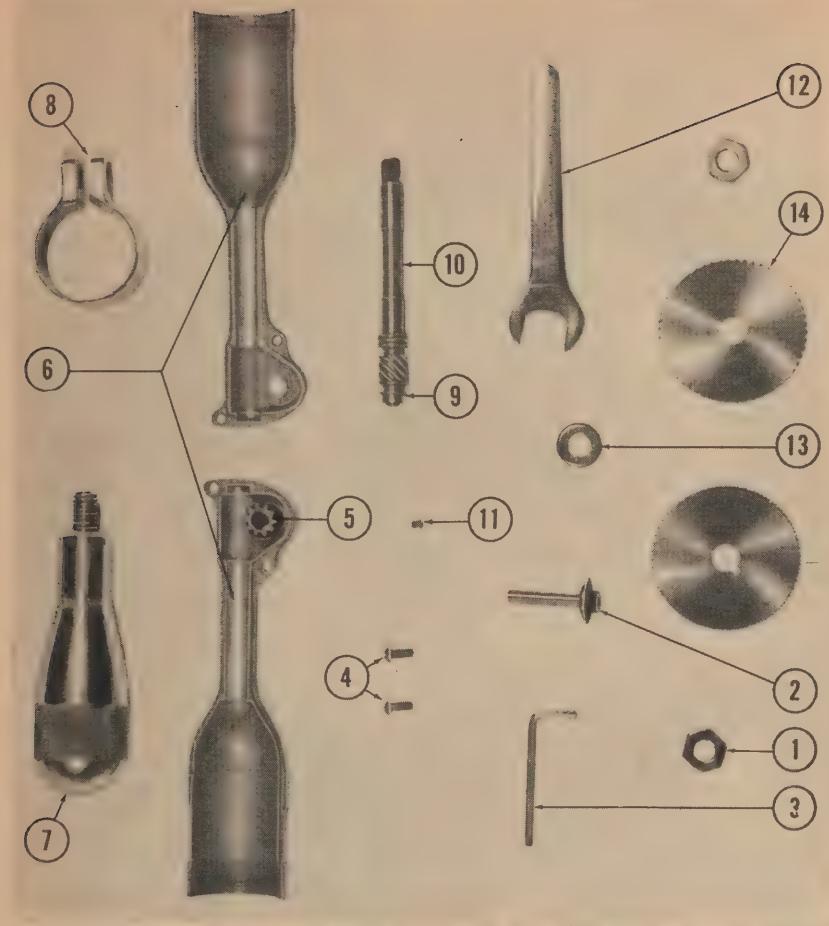


Figure 7. The longitudinal attachment, showing all parts and the circular saws.

1. 3R00164—Nut, Spindle, Large Saw.	9. 3R00100—Bearing, Longitudinal Attachment, End.
2. 3R00102—Spindle, Saw, Longitudinal Attachment.	10. 3R00098—Spindle, Longitudinal Attachment.
3. SR00193—Wrench, Setscrew, Bristo, No. 8.	11. SR00197—Setscrew, 8-32 $\times \frac{1}{8}$ Inch, Bristo, Cup Pt., S.S.
4. SR00196—Screw, 8-32 $\times \frac{5}{16}$ Inch, R.H.M., Brass.	12. 3R00144—Wrench, Open End, $\frac{5}{8}$ -Inch, Special.
5. 3R00094—Spindle, Longitudinal Attachment, Short.	13. 3R00104—Washer, Drive, Longitudinal Attachment.
6. 3R00088—Casting, Longitudinal, Aluminum.	14. SR00194—Saw, Circular, Carbon Steel, .015 Inch Thick, 2 Inch O.D. $\times \frac{5}{16}$ Inch I.D.
7. 3R00090—Handle, Longitudinal Attachment.	
8. 3R00092—Ferrule, Handle, Longitudinal Attachment.	



Figure 8. The foot switch assembly with cords.

1. SR00191—PLUG, MALE, TWIST LOCK, HUBBELL XT 7465.
2. SR00150—SWITCH, FOOT.
3. SR00195—PLUG, FEMALE, TWIST LOCK, HUBBELL 7464.
4. SR00073—CORD, NEOPRENE, NO. 16, TWO CONDUCTOR.
5. SR00026—PLUG, MALE, SMALL, TWO-PRONG.

CHAPTER 2

OPERATING INSTRUCTIONS

Section IV. GENERAL

6. SCOPE. Chapter 2 contains information for the guidance of the personnel responsible for the operation of this equipment.

Section V. SERVICE UPON RECEIPT OF EQUIPMENT

7. NEW EQUIPMENT. **a. Unpacking.** To unpack the bone operating case, proceed as follows:

- (1) Open the shipping box carefully.
- (2) Remove paper packing so as to uncover the bone operating case.
- (3) Lift case from the shipping box.
- (4) Open case and remove parts necessary for operation.

b. Sterilizing. (1) Place motor assembly, line cord, and all attachments and accessories necessary for the operation in the sterilizing chamber of an autoclave and proceed to sterilize according to the technique directed by the medical officer in charge.

(2) After sterilizing, the motor assembly should be allowed to cool for several hours in the open air before using.

Caution: This equipment must not be sterilized in boiling liquids or cooled by water immersion.

c. Assembling. Attach line cord to equipment and plug into source of current. Attach accessories necessary for the operation as outlined in d to h below.

d. Attaching reciprocating attachment, 3R00156 (figs. 1 and 4). (1) Unscrew the slow end nose cap, 3R00158 (fig. 2).

(2) Using the key provided, 3R00006 (fig. 2), loosen Jacob's chuck enough to allow the driver adapter, 3R00004 (figs. 1 and 6), to slide loosely into the chuck.

(3) Insert the small end of adapter into chuck.
(4) Using key, tighten the chuck securely.
(5) Screw on the reciprocating attachment. Care must be used to prevent stripping of threads.

(6) Attach saws or chisels to reciprocating attachment, screw chuck, 3R00130 (fig. 5), on as far as possible, loosen one notch, and insert saw or chisel and tighten.

e. Attaching telescopic attachment, 3R00152 (fig. 1). (1) Unscrew the slow end nose cap, 3R00158 (fig. 2).

(2) Screw on telescopic attachment.

(3) Insert selected Kirschner wire through attachment into Jacob's chuck.

(4) Tighten chuck securely through hole in telescopic body, 3R00106 (fig. 1), with key provided.

f. Attaching longitudinal attachment, 3R00154 (figs. 1 and 6). Use the same procedure outlined for the reciprocating attachment (paragraph 7d). To adjust the width of the circular saws, slide outer saw in or out and lock with the Bristo setscrew in the hub of the saw.

g. Attaching foot switch assembly, 3R00150, and electrical connections. (figs. 1 and 8). (1) Insert male twist-lock plug, SR00191 (fig. 8), into female twist lock plug, SR00195, connected to the foot switch.

(2) Connect other female twist lock plug to the motor assembly.

(3) Turn all twist lock connections slightly to the right to lock them.

h. Attaching slotting burrs (fig. 1). (1) Unscrew fast end nose cap, 3R00056 (figs. 2 and 3).

(2) Insert burr into end of spindle.

(3) Give burr a half turn to make certain it is seated properly.

(4) Replace fast end nose cap to prevent burr slipping out.

i. Sizes of attachments. Drills, curetting burrs and wires from $\frac{1}{4}$ inch to the smallest wire size may be held securely in the Jacob's chuck.

8. USED EQUIPMENT. **a.** Before sterilizing the bone operating case, connect the equipment to the source of power and check by depressing the foot switch to make sure that the motor operates when the foot switch is depressed. See paragraph 9. A visual inspection is sufficient.

b. It is suggested that a check be made of the accessories received against the list of parts in appendix II. Any missing accessories or accessories which the medical officer in charge deems to be unusable should be requisitioned immediately.

c. With the exception of the procedure as outlined in a and b above, proceed as for new equipment. See paragraph 7.

Section VI. CONTROLS AND INSTRUMENTS

9. CONTROLS—FOOT SWITCH. The foot switch serves as an on-and-off switch and as a means of regulating the speed of the motor. When the pedal is not depressed, the equipment is in the off position. The motor rotates at higher speeds as the foot pedal is depressed until it reaches maximum speed when the foot pedal is depressed to its greatest extent.

10. INSTRUMENTS. No instruments of any kind are used on this equipment.

Section VII. OPERATING UNDER USUAL CONDITIONS

11. GENERAL. The technique of operation of the bone operating case is the responsibility of the medical officer in charge. The following general recommendations are made by the manufacturer of the equipment:

- a.** When using the slotting burr technique, it is suggested that the operator keep the foot pedal fully depressed to maintain the maximum speed necessary for satisfactory performance.
- b.** It is advisable when cutting hard bone with a saw or burr to play a normal solution of salt water on the bone to prevent burning.

CHAPTER 3

MAINTENANCE INSTRUCTIONS

Section VIII. GENERAL

12. SCOPE. Chapter 3 contains information for the guidance of the personnel of the using organizations responsible for the maintenance (first and second echelon) of this equipment.

Section IX. SPECIAL ORGANIZATIONAL TOOLS AND EQUIPMENT

13. TOOLS ISSUED WITH EQUIPMENT. **a.** WRENCH, Setscrew, Bristo No. 8: SR00193 (figs. 5 and 7).

b. WRENCH, Setscrew, Bristo, $\frac{1}{4}$ -Inch: SR00201.

c. WRENCH, Open End, $\frac{5}{8}$ -Inch: Special. 3R00144 (fig. 7).

14. TOOLS FOR MAINTENANCE PERSONNEL ONLY. **a.** WRENCH, Setscrew, Allen No. 8: SR00364.

b. WRENCH, Setscrew, Allen No. 10: SR01727.

c. WRENCH, Single-end, Engineer, Adjustable, 6-Inch Length: SR01841.

d. SCREW DRIVER, $\frac{1}{4}$ -Inch Shank, 6-Inch Blade Length: SR01593.

e. SCREW DRIVER, $\frac{3}{16}$ -Inch Shank, 3-Inch Blade Length: SR01584.

f. HAMMER, Ball Peen, 8 Oz.: SR01367.

Section X. LUBRICATION

15. AFTER EACH OPERATION. Coat all attachments and accessories with special preservative lubricating OIL (PS).

16. MONTHLY. Lightly oil Jacob's chuck and attachment assemblies with special preservative lubricating OIL (PS).

Section XI. PREVENTIVE MAINTENANCE SERVICES

17. AFTER EACH OPERATION. After each operation all attachments and accessories should be washed thoroughly with soap and hot water followed by a rinse with clear water, completely drying and being coated with special preservative lubricating OIL (PS) and properly placed in the carrying container. This procedure prevents rusting of the accessories.

18. MONTHLY. **a.** Oil the Jacob's chuck and attachment assemblies lightly with special preservative lubricating OIL (PS).

b. Tighten all accessible screws.

Section XII. TROUBLE SHOOTING

19. GENERAL. The following trouble shooting procedures can be used by either the operator or the using organization. The first and second echelon of maintenance should not disassemble the motor assembly even for lubrication purposes. However, since the idler gears are particularly vulnerable, this section includes replacing those gears but this procedure is recommended as a second echelon emergency repair only.

20. REPLACING CIRCULAR SAWS. All circular saws rotate in the same direction; therefore, when replacing a saw, it must be installed in the same position as the old one. If a saw is placed on the spindle backwards, it will not cut properly and the teeth will rapidly become dull.

21. FOOT SWITCH ASSEMBLY, 3R00150 (figs.1 and 8). The repair of short circuits and loose connections are the only repairs which should be attempted on the foot switch.

22. RECIPROCATING ATTACHMENT ASSEMBLY, 3R00156 (figs. 1 and 4).

a. Using a No. 8 Allen wrench, unscrew the two assembly setscrews, SR00204.

b. Place a $\frac{5}{16}$ -inch wrench on the square shaft, 3R00126 (fig. 5), just above the nose, 3R00128, and turn counterclockwise until the threads on the nose disengage.

c. Hold the outer casing, 3R00124, and pull out on the chuck, 3R00130.

d. Unscrew the two bronze sleeve screws, SR00205, and pull again, holding the chuck and the bronze sleeve, 3R00140.

e. Unscrew the four rotating sleeve screws, SR00205, and pull the square shaft from the rotating sleeve, 3R00132. This will give access to all parts.

f. Replace worn or broken parts, pack with No. 2 general purpose grease (WB) recommended for motor assembly and reassemble.

23. TELESCOPIC ATTACHMENT ASSEMBLY, 3R00152 (fig. 1). When any section of the telescopic attachment begins to operate too freely, the tension may be restored promptly by expanding the base of the failing section. To do this, use a small screw driver. Any section may be removed by unscrewing the thumbnut to that section.

24. LONGITUDINAL ATTACHMENT ASSEMBLY, 3R00154 (figs. 1 and 6).

a. Unscrew the saw spindle setscrew, SR00197 (fig. 7), with the No. 8 Bristo wrench, SR00193, and remove outside saw and spindle.

- b.** Using the wrench issued with equipment, 3R00144, unscrew the circular saw nut, SR00199.
- c.** Remove the saw and the saw drive washer, 3R00104.
- d.** Using a medium screw driver, pry off the handle ferrule, 3R00092.
- e.** Remove the two round head machine screws, SR00196.
- f.** Take apart the two sides of the casting. This exposes all parts.
- g.** Replace worn or broken parts, pack with No. 2 general purpose grease (WB) recommended for motor assembly (paragraph 25h), and reassemble.

25. REPLACING IDLER GEARS, 3R00058 (figs. 2 and 3). **a.** Using two strap wrenches, SR01401, unscrew the slow end casting, 3R00038 (figs. 2 and 3), from the fast end casting, 3R00008. In the event that only one strap wrench is available, the fast end casting can be held in the jaws of a vise and the slow end casting unscrewed with the strap wrench. If a vise is used, however, extreme care must be taken not to apply pressure great enough to bend or crack the soft aluminum casting. The jaws of the vise should also be padded with two or three thicknesses of cloth to prevent marring of the surface of the casting.

- b.** Now, remove all grease with dry cleaning solvent (SD) or alcohol. Remove broken pieces of gear.
- c.** Using a No. 10 Allen wrench, unscrew either or both setscrews, SR00186 (fig. 3), as need be, two turns counterclockwise. This unlocks the idler gear pins, SR00202.
- d.** Pull out idler gear pins and remove brass washer, SR00200. Care must be taken not to damage the pin when removing it.
- e.** Place new gear and washer on the gear pin.
- f.** Using a small hammer, gently tap the gear back into place. Take care not to bind the head of the pin against the gear too tightly.
- g.** Place two drops of special preservative lubricating oil (PS) on each gear. The gear should now turn freely.
- h.** A light, high stability grease, No. 2 general purpose grease (WB), should be packed loosely around the gears. Other greases must not be used as they cannot withstand the high temperatures necessary for sterilizing.
- i.** Screw castings together and tighten.

26. SHARPENING OF CHISELS. Chisels, issued as accessories with the bone operating case, should not be sharpened. When deemed dull by the medical officer in charge, new ones should be requisitioned and the dull ones disposed of.

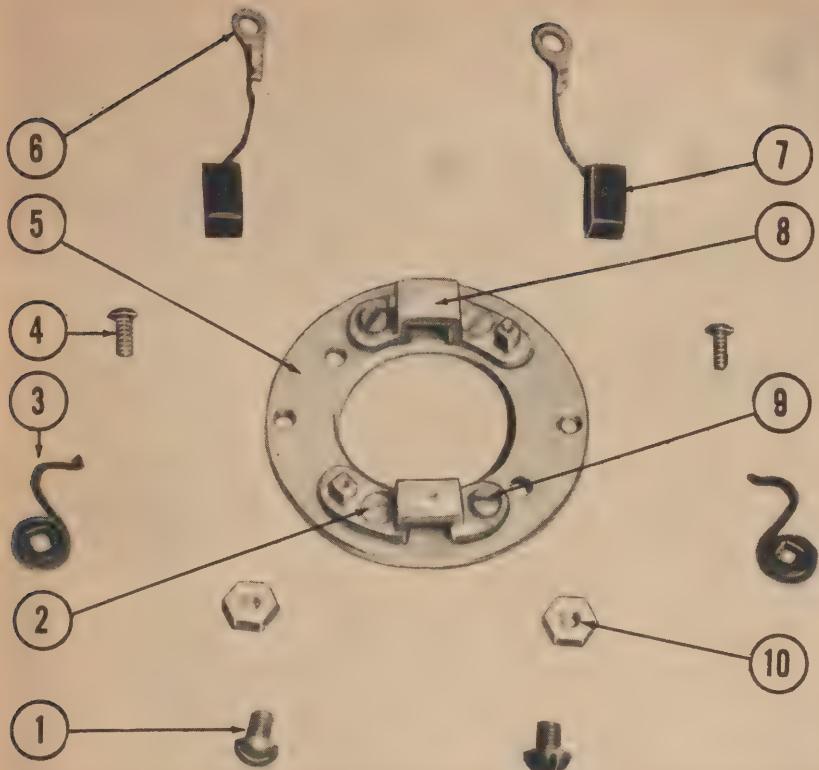


Figure 9. The ring brush holder and all parts.

1. SR00182—Screw, 6-32 X $\frac{1}{4}$ Inch, R.H.M., Brass.	6. SR00180—Terminal, .016 Ga., $\frac{5}{32}$ Inch Hole, $\frac{3}{16}$ Inch O.D., Copper.
2. SR00179—Screw, 4 X $\frac{1}{4}$ Inch, Sheet Metal, Fl.H.	7. 3R00066—Brush, Carbon.
3. 3R00070—Spring, Brush.	8. 3R00068—Holder, Brush.
4. SR00181—Screw, 2 X $\frac{3}{8}$ Inch, Sheet Metal, R.H.	9. SR00178—Screw, 4 X $\frac{1}{4}$ Inch, Sheet Metal, B.H.
5. 3R00064—Ring, Holder, Brush.	10. SR00183—Nut, 6 X 32, Square, Brass.

APPENDIX I

STORAGE AND SHIPMENT

27. STORAGE. No special storage requirements are necessary for the bone operating case. There are, however, two cautions to keep in mind:

- a.** The equipment should be stored in a dry place away from dampness.
- b.** Extreme care must be taken not to strike the equipment against anything hard, as serious damage may be caused the motor and casting by a sharp blow.

28. SHIPMENT. To prepare the equipment for shipment, proceed as follows:

- a.** Disconnect all electrical connections.
- b.** Remove attachments and accessories from the motor assembly. Coat with special preservative lubricating oil (PS).
- c.** Clean equipment thoroughly (see paragraph 17).
- d.** Place all assemblies, subassemblies and parts in their proper places in the carrying container.
- e.** Pack case securely in a stout box, using paper, rags, or a similar material to keep equipment from moving in its container during transit.

APPENDIX II

LIST OF PARTS

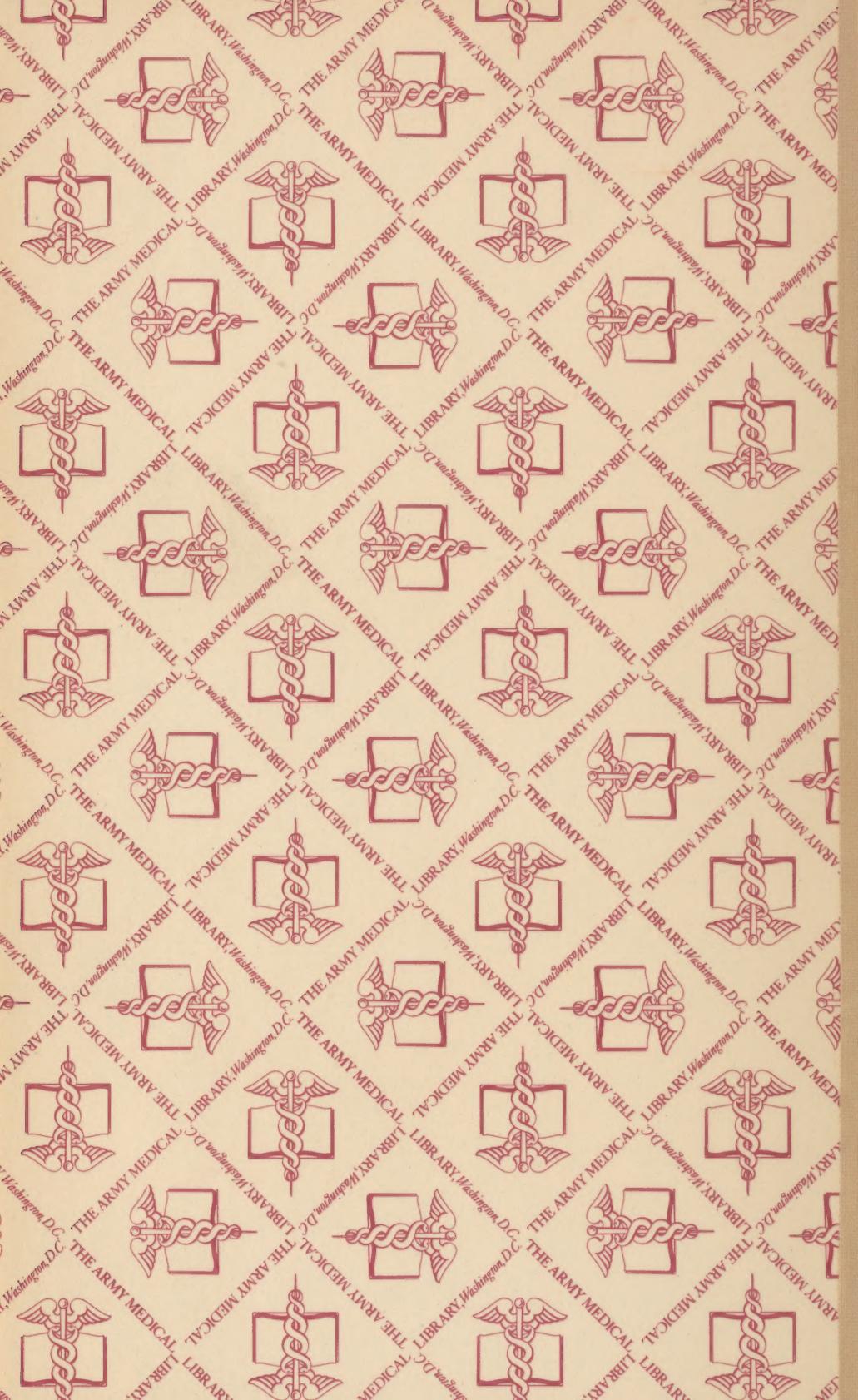
Medical Dept. No.	Nomenclature	Figure No.
<i>Common Parts</i>		
*SR00017	NUT, 8 X 32, HEX.....	—
*SR00026	PLUG, MALE, SMALL, TWO-PRONG.....	8
*SR00073	CORD, NEOPRENE, #16, TWO-CONDUCTOR.....	8
*SR00117	SCREW, 8-32 X 1 $\frac{1}{4}$ INCH, R.H.M.: Used in foot switch.....	—
*SR00173	DRILL, TWIST, $\frac{3}{32}$ -INCH, CARBON STEEL.....	1
*SR00174	DRILL, TWIST, $\frac{1}{8}$ -INCH, CARBON STEEL.....	1
*SR00175	DRILL, TWIST, $\frac{5}{32}$ -INCH, CARBON STEEL.....	1
*SR00176	DRILL, TWIST, $\frac{3}{16}$ -INCH, CARBON STEEL.....	1
*SR00177	SAW, CIRCULAR, CARBON STEEL, .012 INCH THICK, 1 $\frac{1}{8}$ INCH O.D. X $\frac{3}{8}$ INCH I.D.....	1
*SR00178	SCREW, 4 X $\frac{1}{4}$ -INCH, SHEET METAL, B.H.: Used in brush holder.....	3
*SR00179	SCREW, 4 X $\frac{1}{4}$ -INCH, SHEET METAL, FL. H.: Used in brush holder.....	3
*SR00180	TERMINAL, .016 GA., $\frac{3}{32}$ -INCH HOLE, $\frac{3}{16}$ INCH O.D., COPPER: Used in the field assembly.....	3
*SR00181	SCREW, 2 X $\frac{3}{8}$ -INCH, SHEET METAL, R.H.: Used in brush spring.....	3
*SR00182	SCREW, 6 32 X $\frac{1}{4}$ INCH, R.H.M., BRASS: Used in field assembly.....	3
*SR00183	NUT, 6 X 32, SQUARE, BRASS: Used in field assembly.....	3
*SR00184	SCREW, 8 32 X 4 INCH, R.H.M.: Used to hold inside bearing holder to field assembly.....	2, 3
*SR00185	NUT, 8 X 32, HEX, BRASS: Used for assembly bolt.....	2, 3
SR00186	SETSCREW, 10 24 X $\frac{3}{16}$ INCH, ALLEN, CUP PT., STAINLESS STEEL: Used in idler gear shaft.....	3
SR00187	SPACER, BEARING, $\frac{7}{16}$ INCH O.D. X $\frac{3}{16}$ INCH I.D. X $\frac{1}{16}$ INCH THICK.....	5
SR00188	WASHER, $\frac{13}{16}$ INCH O.D. X $\frac{3}{8}$ INCH I.D. X $\frac{1}{16}$ INCH THICK, FELT.....	2, 3
SR00189	TUBING, INSULATION, SPAGHETTI, 3 MM.....	3
*SR00190	SCREW, 6 X $\frac{3}{8}$ INCH, SELF TAPPING, O.H., STAINLESS STEEL.....	2, 3
*SR00191	PLUG, MALE, TWIST LOCK, HUBBELL XT 7465.....	8
SR00192	BEARING, THRUST, $\frac{7}{16}$ INCH O.D. X $\frac{3}{16}$ INCH I.D. X $\frac{1}{16}$ INCH THICK, BRASS, STEEL BALL.....	5
SR00193	WRENCH, SETSCREW, BRISTO NO. 8.....	5, 7
*SR00194	SAW, CIRCULAR, CARBON STEEL, .015 INCH THICK, 2 INCH O.D. X $\frac{5}{16}$ INCH I.D.....	6, 7
*SR00195	PLUG, FEMALE, TWIST LOCK, HUBBELL 7464.....	8
*SR00196	SCREW, 6 32 X $\frac{5}{16}$ INCH, R.H.M., BRASS: Used in longitudinal attachment.....	7
SR00197	SETSCREW, 8 32 X $\frac{1}{8}$ INCH, BRISTO, CUP PT., STAINLESS STEEL: For saw spindle.....	5, 7
SR00198	SCREW, 10 24 X $\frac{1}{4}$ INCH, FILL.H.M., BRISTO, STAINLESS STEEL.....	—
SR00200	WASHER, $\frac{3}{16}$ INCH X $\frac{1}{2}$ INCH X .010 INCH BRASS: For idler gear.....	3
SR00201	WRENCH, SETSCREW, BRISTO, $\frac{1}{2}$ -INCH.....	—
SR00202	PIN, 10 X $\frac{1}{2}$ INCH, FLAT HEAD: For idler gear.....	2, 3
SR00204	SETSCREW, 8-32 X $\frac{3}{16}$ INCH, ALLEN, CUP PT., STAINLESS STEEL: For reciprocating attachment.....	—
SR00205	SCREW, 2 56 X $\frac{1}{8}$ INCH, FL. H.M.: For reciprocating attachment.....	—
SR00206	SETSCREW, $\frac{1}{4}$ -20 X $\frac{1}{4}$ INCH, BRISTO FLAT PT., STAINLESS STEEL.....	5

Medical Dept. No.	Nomenclature	Figure No.
<i>Uncommon Parts</i>		
3R00002	CASE, CARRYING, COMPLETE: With hinges, hasp, and handle.	1
3R00004	ADAPTER, DRIVER: Used in Jacob's chuck with reciprocating attachment.	1, 6, 5
3R00006	KEY, JACOB'S CHUCK	2
3R00008	CASTING, FAST END: For motor assembly.	2, 3
*3R00010	BURR, SLOTTING, SIZE 1	1
*3R00012	BURR, SLOTTING, SIZE 2	1
**3R00014	BURR, CURETTING, #3	-
*3R00016	BURR, CURETTING, #4	1
**3R00018	BURR, CURETTING, #5	-
*3R00020	BURR, CURETTING, #6	1
**3R00022	BURR, CURETTING, #7	-
**3R00024	BURR, CURETTING, #8	-
**3R00026	BURR, CURETTING, #9	-
**3R00028	BURR, CURETTING, #10	-
**3R00030	BURR, CURETTING, #11	-
**3R00032	BURR, CURETTING, #12	-
**3R00034	BURR, CURETTING, #13	-
**3R00036	BURR, CURETTING, #14	-
3R00038	ASSEMBLY, SLOW END, COMPLETE: Including casting, Jacob's chuck, bearings, spindle and internal gear.	2, 3
*3R00040	SÄW, CIRCULAR, 1 $\frac{3}{8}$ -INCH DIAMETER, WITH HUB	-
*3R00042	SAW, STRAIGHT, WIDE, LONG	4
*3R00044	SAW, STRAIGHT, WIDE, SHORT	4
*3R00046	SAW, STRAIGHT, NARROW, LONG	4
*3R00048	SAW, STRAIGHT, NARROW, SHORT	4
*3R00050	CHISEL, BONE, CURVED, $\frac{1}{2}$ INCH	4
*3R00052	CHISEL, BONE, FLAT, $\frac{1}{2}$ INCH	4
*3R00054	CHISEL, BONE, FLAT, $\frac{3}{4}$ INCH	4
3R00056	CAP, NOSE, FAST-END: For motor assembly	2, 3
3R00058	GEAR, IDLER	2, 3
3R00060	SPINDLE, SAW, LARGE	-
3R00062	FIELD, MAGNETIC: In motor assembly	2, 3
3R00064	RING, BRUSH HOLDER, BAKELITE: Used in field	3
*3R00066	BRUSH, CARBON: Used in field	3
3R00068	HOLDER, BRUSH, BRONZE: Used in field	3
*3R00070	SPRING, BRUSH, BRONZE: Used in field	3
3R00072	HOLDER, BEARING, 2 $\frac{1}{2}$ INCH ALUMINUM	2, 3
3R00074	BUSHING, MOTOR, LARGE, FIBRE	2, 3
3R00076	BUSHING, MOTOR, SMALL, FIBRE	2, 3
3R00078	ARMATURE, COMPLETE: With bearings	2, 3
3R00080	MOTOR, COMPLETE: Assembly	1, 2, 3
3R00082	RHEOSTAT, FOOT SWITCH	-
3R00084	PLATE, COVER, FOOT SWITCH	-
3R00086	INSULATION, FOOT SWITCH, PAPER	-
3R00088	CASTING, LONGITUDINAL, ALUMINUM	7
3R00090	HANDLE, LONGITUDINAL ATTACHMENT	1, 6, 7
3R00092	FERRULE, HANDLE, LONGITUDINAL ATTACHMENT	6, 7
3R00094	SPINDLE, LONGITUDINAL ATTACHMENT, SHORT: With spiral gear	7
3R00096	SPACER, FERRULE, LONGITUDINAL ATTACHMENT	-
3R00098	SPINDLE, LONGITUDINAL ATTACHMENT, COMPLETE: With spiral gear and bearing	7
3R00100	BEARING, END, LONGITUDINAL ATTACHMENT: With spacer	7
3R00102	SPINDLE, SAW, LONGITUDINAL ATTACHMENT	7
3R00104	WASHER, DRIVE, LONGITUDINAL ATTACHMENT	7
3R00106	BODY, TELESCOPIC	1
3R00108	SECTION, "A", TELESCOPIC ATTACHMENT, ALUMINUM	1
3R00110	NUT, THUMB, "A", TELESCOPIC ATTACHMENT	1

Medical Dept. No.	Nomenclature	Figure No.
3R00112	SECTION, "B", TELESCOPIC ATTACHMENT.....	1
3R00114	NUT, THUMB, "B", TELESCOPIC ATTACHMENT.....	1
3R00116	SECTION, "C", TELESCOPIC ATTACHMENT.....	1
3R00118	NUT, THUMB, "C", TELESCOPIC ATTACHMENT.....	1
3R00120	SECTION, "D", TELESCOPIC ATTACHMENT.....	—
3R00122	NUT, THUMB, "D", TELESCOPIC ATTACHMENT.....	1
3R00124	CASING, OUTER, RECIPROCATING ATTACHMENT.....	5
3R00126	SHAFT, RECIPROCATING ATTACHMENT: With drive screw.....	5
3R00128	NOSE, RECIPROCATING ATTACHMENT.....	5
3R00130	CHUCK, RECIPROCATING ATTACHMENT, COMPLETE.....	5
3R00132	SLEEVE, ROTATING, RECIPROCATING ATTACH- MENT, COMPLETE: With drive shaft.....	5
3R00134	BUSHING, SQUARE HOLED, RECIPROCATING AT- TACHMENT.....	5
3R00136	BUSHING, RECIPROCATING ATTACHMENT.....	5
3R00138	CAM, RECIPROCATING ATTACHMENT.....	5
3R00140	SLEEVE, RECIPROCATING ATTACHMENT, BRONZE.....	5
3R00142	PLUG, MALE: Electrical inlet to motor.....	1, 2, 3
3R00144	WRENCH, OPEN END, $\frac{5}{8}$ INCH: Special.....	7
3R00146	MOTOR, ELECTRIC, COMPLETE: Subassembly.....	2
3R00148	BOX, FOOT SWITCH: With pedal.....	—
3R00150	SWITCH, FOOT: Assembly.....	1-8
3R00152	ATTACHMENT, TELESCOPIC, COMPLETE.....	1
3R00154	ATTACHMENT, LONGITUDINAL, COMPLETE.....	1-6
3R00156	ATTACHMENT, RECIPROCATING, COMPLETE.....	1-4
3R00158	CAP, NOSE, SLOW-END: For motor assembly.....	2-3
3R00160	WASHER, DRIVE, SAW.....	—
3R00162	SPRING, ADJUSTING.....	2
3R00164	NUT, SPINDLE, LARGE SAW.....	6, 7

*To be requisitioned from supply depot.

**Accessories not issued with equipment, but to be requisitioned from supply depot.



PRESSBOARD
PAMPHLET BINDER

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